



## PATENT ABSTRACTS OF JAPAN

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MATSUZAKA FUMIO****(54) MIRROR AND LENS WITH VARIABLE  
CURVATURE****(57) Abstract:**

**PROBLEM TO BE SOLVED:** To obtain a small-size inexpensive mirror with variable curvatures by using a single electrostriction crystal to constitute the mirror, shaping the faces perpendicular to the electrostriction direction of the crystal into concave or convex faces, and applying a mirror coating on the curved face.

**SOLUTION:** This reflection mirror 1 consists of a single electrostriction element. The reflection mirror 1 has a cross section like a hand drum having parallel top and bottom lines and concave sides. Positive voltage is applied on the upper face 1a, while negative voltage is applied on the lower face 1b. Metal thin films are deposited by vapor deposition on the upper and lower faces 1a, 1b, and voltage is uniformly applied on the electrostriction element to effectively cause de-

formation. Either of the concave faces 1c is coated with a mirror coating 2. As for the mirror coating 2, a vapor deposition plating film of a metal is used. By adding voltage in the perpendicular direction to the electrostriction direction of the single electrostriction crystal having a drum-like cross section, the curvature of the concave face 1c changes due to the difference in the thickness in the cross section along the height direction. Thus, the curvature of the mirror face also changes.

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